

Research Article

**Knowledge, Attitude and Practice of Oral Contraceptive Pills Among Undergraduate Medical and Dental Students at SBKS MI & RC, Piparia, Vadodara**

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ABSTRACT

To assess the knowledge, identify the attitudes and barriers of practice of oral contraceptive pills among medical and dental students. This study was carried out in second and final year medical and dental students of SBKS MI & RC and K M Shah Dental College, Sumandeep Vidyapeeth, Piparia, Vadodara. Data were collected on a structured, self – administrative questionnaire which was mounted on a scoring system and the obtained scores were used to determine the level of knowledge of oral contraceptive pills among the participants. The answers of the questions related to the attitudes and practices were yes /no type questions. All the data were analyzed using SPSS V 23.0. Average knowledge score was 16.7 ± 3.95 ; which was similar between gender ($p=0.18$) and education category ($p=0.7$), albeit, the final year students had high knowledge score compared to second year students. ($p= 0.007$). The information on attitude reveals that most of the students believe it is appropriate to discuss sexual health with friends, while only one third of students believe the need of contraceptive counselling before marriage. The results of questionnaire regarding practice of OC pills reveal an important finding that 73% students believe that using contraceptive methods promote promiscuity while only 58% were in favor of prescribing OC pills. Study clearly shows that medical and dental students require additional education on all aspects of contraception for betterment of sexual health and prevention of unwanted pregnancies.

Keywords: Attitude, Contraception, Knowledge, OC pills, Practice.**INTRODUCTION**

According to the United Nations estimate, at the present rate of growth, the world population is expected to double in 35 years and it would increase eight fold in a century. If the world resources are considered, this forecasts a disaster for the human race, unless the fertility is controlled. As for India, the equivalent of the entire population of Australia is added every year! Hence, acceptance and practice of contraception assumes critical importance.¹

One of the major determinants of fertility level is contraception. In the developing world, an estimated 122.7 million women have an unmet need for contraception.² Almost half of the Asian countries have contraceptive prevalence of 60% or higher.² The high unmet need and ineffective use of contraceptives generally result in unplanned pregnancies that may end in induced abortions.³ According to the new estimates, worldwide abortion rates are almost similar in both developing and developed world; however, unsafe abortions are dominating in developing countries.³ The most important factor to prevent unplanned or mistimed pregnancies is to provide the knowledge about use of contraception.

Various studies are available about the knowledge, attitude and practice patterns among obstetrician-gynecologists, pediatricians, family-planning specialists, residents, medical students, health care providers and nursing staffs with respect to contraception particularly

oral contraceptive pills.⁴ Many studies have already reported that the knowledge of benefits and side effects of oral contraceptive pills among the general practitioners and medical students are poor.⁵ The healthcare personnel share great responsibilities to possess an appropriate knowledge about benefits, side effects and proper usage of oral contraceptive pills and provide the same to the population in need.⁶ Thus, understanding of knowledge, attitude and practice of oral contraceptives is critical for countries like India with a population policy aiming at reducing unwanted pregnancy.

The objectives of our study were to assess the knowledge about oral contraceptive pills among medical and dental students of second and final year, to identify the attitudes towards oral contraceptive pills usage and to identify barriers of practice of oral contraceptive pills. We also intended to learn about attitudes towards discussion of oral contraceptives, sexual health and contraceptive method usages among medical and dental students and to know the scope of the problem in the study area. The information gathered from this study will provide baseline data for further similar studies at multicenter level which will assist policy makers to develop appropriate evidence-based strategies to promote the use of oral contraceptive pills in India.



MATERIALS AND METHODS

Study Design

We carried out this study in second and final year medical and dental students of SBKS MI & RC and K M Shah Dental College, Sumandeep Vidyapeeth, Piparia, Vadodara. The study was conducted only after taking due permission from Institutional Ethics Committee (IEC), Sumandeep Vidyapeeth, Piparia. All the volunteers participating in the study were explained clearly about the purpose and nature of the study in the language they can understand. They were included in the study only after obtaining a written informed consent.

Data Collection Procedure

Data were collected on a structured, self – administrative questionnaire consisting of total 55 questions. We developed a three page questionnaire through extensive data search of similar studies. This questionnaire had questions on various aspects of oral contraceptive pills i.e. knowledge, attitude and practice. The questionnaire was mounted on a scoring system and the obtained scores were used to determine the level of knowledge of oral contraceptive pills among the participants. The questions related to the attitude and practice of OC pills

were yes /no type questions and the obtained answers were analyzed to know the trend towards attitudes and practices of OC pills. The questions related to the knowledge regarding OC pills were based on information gathered from standard textbooks and peer reviewed literature. Thus, every correct answer was awarded 1 point while every wrong answer was given 0 point. The level of knowledge was labeled as excellent (score 21-30), good (score 11-20) and poor (score 0-10). The answers of the questions related to the attitudes and practices of OC pills were analyzed separately as there are no correct answers of these questions. These are subjective questions and vary from one person to another person according to their cultural backgrounds, beliefs and their levels of knowledge. Each participant was given the questionnaire containing 55 questions and provided an option not to participate. Participants were ensured for strict confidentiality and anonymity for the responses they were providing.

Inclusion criteria of study were medical and students of either sex studying in the second and final year. Exclusion Criteria were students who are not willing to sign informed consent and participate in the study survey.

Table 1: Demographic characteristic of Students

	Total	Medical (n=98)	Dental (n=102)	p-value
Age (mean ± SD)	18.8 ± 0.6	18.91 ± 0.69	18.91 ± 0.69	0.16
Gender (n) (%)				
Male	98 (49%)	45 (45.9%)	53 (52.0%)	0.2
Female	102 (51%)	53(54.1%)	49(48.0%)	
Married (n) (%)	0(0)	0(0)	0(0)	>0.99
Religion (n) (%)				
Hindu	196 (98%)	94 (95.9%)	102 (100%)	0.06
Muslim	4 (2%)	4 (4.1%)	0	
Student (n) (%)				
Second Year	102 (51%)	55 (56.1%)	47 (46%)	0.1
Final Year	98 (49%)	43 (43.9%)	55 (54%)	

Table 2: Knowledge Score comparison among education, gender and year of study Categories

	Medical (n=98)	Dental (n=102)	p-value	Male (n=98)	Female (n=102)	p-value	Second Year (n=102)	Final Year (n=98)	p-value
Overall Score (mean ± SD)	16.8 ± 3.1	16.6 ± 4.6	0.7	17.1 ± 4.8	16.4 ± 2.9	0.18	16.0 ± 3.8	17.5 ± 4.0	0.007
Category									
Poor (n) (%)	2 (2)	1 (1)	0.5	2 (2)	1 (1)	0.5	2 (2)	1 (1)	0.002
Good (n) (%)	83 (84.7)	82 (80.4)		80 (81.6)	85 (83.3)		92 (90.2)	73 (74.5)	
Excellent (n) (%)	13 (13.3)	19 (18.6)		16 (16.3)	16 (15.7)		8 (7.8)	24 (24.5)	

RESULTS

Continuous data are described as mean ± standard deviation and as count and percentage if categorical. To

compare differences across the group student's t-test is used for continuous data and chi-square test is used for categorical data. The knowledge score of student



analyzed between groups as continuous as well as categorical variable [Excellent (score 21-30), good (score 11-20) and poor (score 0-10)]. The attitude and practice information are described as count and percentage. All the data were stored in MS Excel sheets and analyzed using SPSS V 23.0 where p-value < 0.05 is considered as statistical significant.

Demographic characteristics of the students are given in Table 1. There was no significant difference in demographic characteristics between medical and dental students. Average knowledge score was 16.7 ± 3.95 ; which was similar between gender ($p=0.18$) and education category ($p=0.7$), while, final year students had high knowledge score compared to second year students. ($p= 0.007$). Also, knowledge score categories (Table 2) (poor, good and excellent) did not show the association with gender ($p=0.5$) or education ($p=0.5$), but again it shows association with year of study ($p=0.002$) where more student in final year had excellent score (24.5% vs. 7.8%); this association was further analyzed by education category (Table 3) where medical students' average score was higher among final year student ($p < 0.001$) and score categories were associated with year of study as well (p

<0.001). Furthermore, all students in final year medical had good and excellent score compared to second year medical. Interestingly, for dental students average score was similar between year of study ($p=0.9$) and score categories were not associated with year of study ($p=0.8$). Moreover, knowledge information were also depicted by sources of information (Table 4) where school or college was the main source for information for final year medical students (35%) while electronic media was the main source for final year dental and second year medical students. Friends/parents were the main source of information for second year dental students. The information on attitude is shown in Table 5 where most of the students believe it is appropriate to discuss with friends and there is a need of OCP advertisement among mass population, while only one third of students believe the need of contraceptive counseling before marriage. Table 6 shows the information on practice of OC pills. The important finding was that 73% students believed that using contraceptive methods promote promiscuity which can impact the use of contraception among them while only 58% were in favor of promoting/prescribing OCP.

Table 3: Knowledge Score Comparison of Year of study by educational category

	Second Year Student (n=102)	Final Year Student (n=98)	p-value
Medical (n=98)			
Overall Score (mean \pm SD)	15.5 \pm 2.7	18.4 \pm 3.1	<0.001
Category			
Poor (n) (%)	2 (3.6)	0 (0)	<0.001
Good (n) (%)	53 (96.4)	30 (69.8)	
Excellent (n) (%)	0 (0)	13 (30.2)	
Dental (n=102)			
Overall Score (mean \pm SD)	16.61 \pm 4.64	16.63 \pm 4.63	0.98
Category			
Poor (n) (%)	0 (0)	1 (1.8)	0.8
Good (n) (%)	39 (83)	43 (78.2)	
Excellent (n) (%)	8 (17)	11 (20)	

Table 4: Sources of knowledge

Source of Information	Second Medical (N=55) (n) (%)	Final Medical (N=43) (n) (%)	Second dental (N=47) (n) (%)	Final Dental (N=55) (n) (%)	All (N=200) (n) (%)
Friends/Parents	14 (25)	9 (21)	18 (39)	17 (30)	58 (29)
Electronic Media	18 (32)	14 (33)	16 (34)	19 (35)	67 (33.5)
School/College	15 (28)	15 (35)	9 (19)	13 (24)	52 (26)
Health Personnel	8 (15)	5 (11)	4 (8)	6 (11)	23(11.5)

DISCUSSION

The population blast which is affecting the whole world has been particularly detrimental to the infrastructure of developing countries like India.⁷ There is a definite need of giving utmost importance to various family planning methods.⁸ According to recent data, around 40% of the

sexually active Indian women use one or another type of contraceptive methods.⁹ There are a variety of methods of contraception available in India which includes barrier methods, oral contraceptive pill, intrauterine devices, and permanent methods in form of male/female sterilization etc.¹⁰ In developing countries like India, cultural backgrounds, social stigma and lack of knowledge about



menstruation and pregnancy, a lack of access to and knowledge about how to use of contraceptives, difficulties in using contraceptives because partner's rejection, contraceptive failures and sexual assaults have been resulted into unplanned pregnancies and eventually unsafe abortions.¹¹ These can lead to high women morbidity and mortality and sexually transmitted diseases including HIV.¹¹

Medical and dental students are expected to have greater knowledge about oral contraceptives than most youth with no or less educational attainment.¹² We observed that majority of the students had misunderstanding about the drug composition and mechanism of action of OC pills. Only eight students from final year medical and three students from second year medical were able to answer the exact mechanism of action of OC pills. Majority of the students (68%) were in doubt of its dosage frequency, timing of administration and its effectiveness. Most of students (57%) had not clear idea about the exact short term and long term side effects of

OC pills but worried about it. Only 33.5 % of all the students were in favor of contraception counseling before marriage which is matter of concern as inappropriate use of contraceptive methods can lead to unplanned pregnancies and complications. 54% of the students said that they will not prescribe OC pills for the fear of side effects which shows their gross misunderstanding about the short term and long term side effects. This stresses the need to educate the students about the side effects of OC pills which occur in the long term and in people with associated or underlying co morbid conditions. Majority of short term side effects like weight gain, flushing, headache, nausea disappear within three months.¹³ Also there is a need to educate about the benefit of OC pills in reducing the risk of endometrial and ovarian cancer.¹⁴ 59% of the students were in agreement for using emergency contraceptive pills for regular use. This trend is very dangerous as regular usage of emergency contraceptive pills is detrimental to female sexual health.¹⁵

Table 5: Attitude Questionnaire Responses

Attitude Questions	Second Medical (N=55) (n)(%)	Final Medical (N=43) (n)(%)	Second dental (N=47) (n)(%)	Final Dental (N=55) (n)(%)	All (N=200) (n)(%)
Appropriate to discuss with friends	46 (83)	35 (81)	35 (75)	43 (78)	159 (79.5)
Embarrassing to discuss with parents	36 (65)	25 (59)	33 (71)	35 (63)	129 (64.5)
Contraception counseling before marriage	18 (33)	19 (45)	11 (23)	19 (35)	67 (33.5)
In favor of prescription/advise of OCP	17 (31)	19 (45)	14 (29)	21 (38)	71 (35.5)
Social stigma associated with sexual health discussion responsible for more teenage pregnancies and unsafe abortions	36 (65)	22 (52)	26 (55)	34 (62)	118 (59)
OCP discourages use of condoms	21 (38)	24(55)	16 (33)	26 (47)	87 (43.5)
Choice of method of contraception to be discussed with sexual partner	42 (77)	35 (81)	31 (67)	40 (73)	148 (74)
Emergency contraceptive pills to be reserved for unprotected sex only	21 (38)	30 (46)	11 (23)	20 (37)	82 (41)
Advertisement of OCP among mass population	42 (77)	34 (79)	33 (70)	45 (82)	154 (77)

Table 6: Practice Questionnaire Responses

Practice Questions	Second Medical (N=55) (n)(%)	Final Medical (N=43) (n)(%)	Second dental (N=47) (n)(%)	Final Dental (N=55) (n)(%)	All(N=200) (n)(%)
Emergency contraceptive pills for regular use	25 (45%)	14 (32%)	23 (48%)	30(55%)	92 (46%)
Will you not prescribe OCP for the fear of side effects?	29 (52%)	18 (43%)	27 (57%)	34 (62%)	108 (54%)
OCP available OTC	37 (67%)	35 (82%)	27 (57%)	40 (72%)	139 (69.5%)
Do you think different contraceptive methods promote promiscuity (multiple sexual partners) and that's why their use should be limited?	42 (76%)	28 (65%)	37 (78%)	39 (71%)	146 (73%)
Are OCP available over the counter	48 (87%)	33 (77%)	38 (81%)	45 (82%)	164 (82%)
Do you think it is convenient to use OCP?	34 (61%)	23 (54%)	30 (63%)	39 (70%)	126 (63%)
Will you promote use of OCP?	25 (45%)	28 (65%)	24 (52%)	39 (71%)	116 (58%)



Since females are the consumers of OC pills, responses from them are of utmost importance. Out of a total 102 female students participated in the study, only 45% found OC pills are easy and safe to use. The problem is essentially interdisciplinary and can only be tackled by the concerted efforts of biologists, sociologists and educationists; the use of drugs for this purpose is but one aspect of the whole program. Though we have tried to maintain full anonymity for the survey, due to the associated social stigma about revealing your views on sexual health, many students deferred themselves from participating in the survey.

There are several limitations in our study. First, this was a pilot study at a single center, further, similar multicenter studies are needed so that more data can be available and results can be generalized. A study with more participants from every educational year and including post graduate students is needed to provide more fruitful data.

CONCLUSION

There is lack of adequate knowledge about oral contraceptive pills among medical and dental students. There is a need to educate adolescents about contraception including oral contraceptive pills with emphasis on available methods and correct timing of use. With modernization becoming a way of life, topics like contraception and sex should not be considered a taboo. It may seem like a daunting task to begin with, but in this age, it is imperative that teachers and parents take the first step so that children and adolescents do not rely on internet or friends for the answers to their questions. Our study clearly shows that medical and dental students require additional education on all aspects of contraception. These interventions should also aim to debunk myths and allay the fears about use of contraceptive methods including OC pills.

Results from the knowledge score analysis and trend of attitude and practice of OC pills will help to find actionable and quantified information that can be utilized in future policy and academic developments. This is a single center pilot study and the results of this study will provide baseline data which will be useful to the other researchers to conduct such studies at multi-center levels.

REFERENCES

- Ross JA, Winfrey WL, Unmet need for contraception in the developing world and the former Soviet Union: an update estimate, *Int Fam Plan Perspect*, 28, 2002, 138-143.
- United Nations, Department of Economic and Social Affairs, Population Division, Level and trends of contraceptive use as assessed in 2002, New York, Department of Economic and Social Affairs, United Nations, 2002, 247.
- Sedgh G, Henshaw S, Singh S, Ahman E, Shah IH, Induced abortion, estimated rates and trends worldwide, *Lancet*, 13:370, 2007, 1338-1345.
- Bongaarts John, Westoff Charles F, The Potential Role of Contraception in Reducing Abortion, *Studies in Family Planning*, 31(3), 2000, 193-202.
- International Women's Health Coalition (IWHC), Unintended Pregnancy and Abortion. <http://www.iwhc.org/resources>.
- ipas, Adolescents, Unwanted Pregnancy and Abortion, Policies, Counseling and Clinical care, USA, 2005.
- Smith BH, Guney Em, Aboulela L, Templeton A, Emergency contraception: a survey of womens knowledge and attitudes, *Br J Obstet Gynaecol*, 103(11), 1996, 1109-1116.
- Srivastava R, Srivastava DK, Jina R, Srivastava K, Sharma N, Sana S, Contraceptive knowledge, attitude and practice (KAP Survey), *J Obstet Gynecol India*, 55, 2005, 546-550.
- Prachi R, Das GS, Ankur B, Shipa J, Binita K, A study of knowledge, attitude and practice of family planning among the women of reproductive age group in Sikkim, *J obstet Gynecol India*, 58, 2008, 63-67.
- Bhasin SK, Pant M, Metha M, Kumar S, Prevalence of usage of different contraceptive method in east Delhi, A cross sectional study, *Indian J Community Medicine*, 30, 2005, 320-323.
- Chopra S, Dhaliwal L, Knowledge, attitude and practices of contraception in urban population of North India, *Arch Gynecol Obstet*, 281, 2010, 273-277.
- United Nations Population Division, World Population Prospects, The 2006 Revision, New York, United Nations Population Division, 2006.
- Dehlendorf C, Levy K, Ruskin R, Steinauer J, Health care providers' knowledge about Contraceptive evidence, a barrier to quality family planning cares, *Contraception*, 81, 2010, 292-298.
- Wallace JL, Wu J, Weinstein J, Gorenflo DW, Feters MD, University of Michigan, Emergency contraception, knowledge and attitudes of family medicine providers *Fam, Med*, 36(6), 2004, 417-422.
- Mittal S, Combination on National Consensus for medical abortion in India, Proceedings and recommendations, WHO-CCR in Human reproduction, Department of Obstetrics and Gynecology, AIIMS, Ministry of Health and Family Welfare, Government of India and ICMR, New Delhi, 2003.

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